URBAN
CROSSROADS

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TM 5504-RPL2 PEPPER DRIVE
PRELIMINARY NOISE IMPACT ANALYSIS
COUNTY OF SAN DIEGO, CALIFORNIA
(Environmental Log Number 06-14-033)

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TM 5504 PEPPER DRIVE
PRELIMINARY NOISE IMPACT ANALYSIS
COUNTY OF SAN DIEGO, CALIFORNIA

1.0 EXECUTIVE SUMMARY

This supplemental noise impact analysis has been completed to determine the noise impacts associated with the development of the proposed TM 5504 Pepper Drive residential project. The proposed site is located on 1.3 acres and includes 5 lots. The proposed project is located at Pepper Drive and Walnut Tree Lane in the eastern portion of the County of San Diego.

The purpose of this noise assessment is to evaluate the noise impacts for the project's outdoor use areas and to recommend noise mitigation measures, if necessary, to minimize the potential project impacts. A final noise study will need to be prepared prior to obtaining building permits for the project. The final report would conclude the noise requirements based upon precise grading plans and actual building design specifications. Exterior noise requirements and preliminary interior noise requirements for tentative tract map approval are presented in this report.

The results of this analysis indicate that the future vehicle noise from Pepper Drive will be the principal source of community noise that will impact the site. Based on the future traffic projections, portions of the proposed site will experience unmitigated exterior noise levels in excess of the County of San Diego 60 dBA CNEL standard for transportation related noise impacts. The results of Sound32 traffic noise prediction model shows that the unmitigated exterior noise levels for Lot 1 with buildout conditions exceeds the County of San Diego 60 dBA CNEL exterior noise level standard. To minimize traffic noise impacts, the project should provide the following noise mitigation measures summarized below:

1.1 Exterior Noise Mitigation

Noise affected outdoor areas on the project site require a 6-foot high barrier on the portion of the project site adjacent to Pepper Drive. The barriers may be constructed of a berm, wall or glass combination. The barrier must be of solid construction containing no gaps. Exhibit 1-A shows the mitigation and barrier heights required to bring future noise levels to the County of San Diego 60 dBA CNEL exterior noise level standards for residential developments.

1.2 Interior Noise Mitigation

- Provide a "windows closed" condition requiring a means of mechanical ventilation (e.g. air conditioning) for Lot 1.

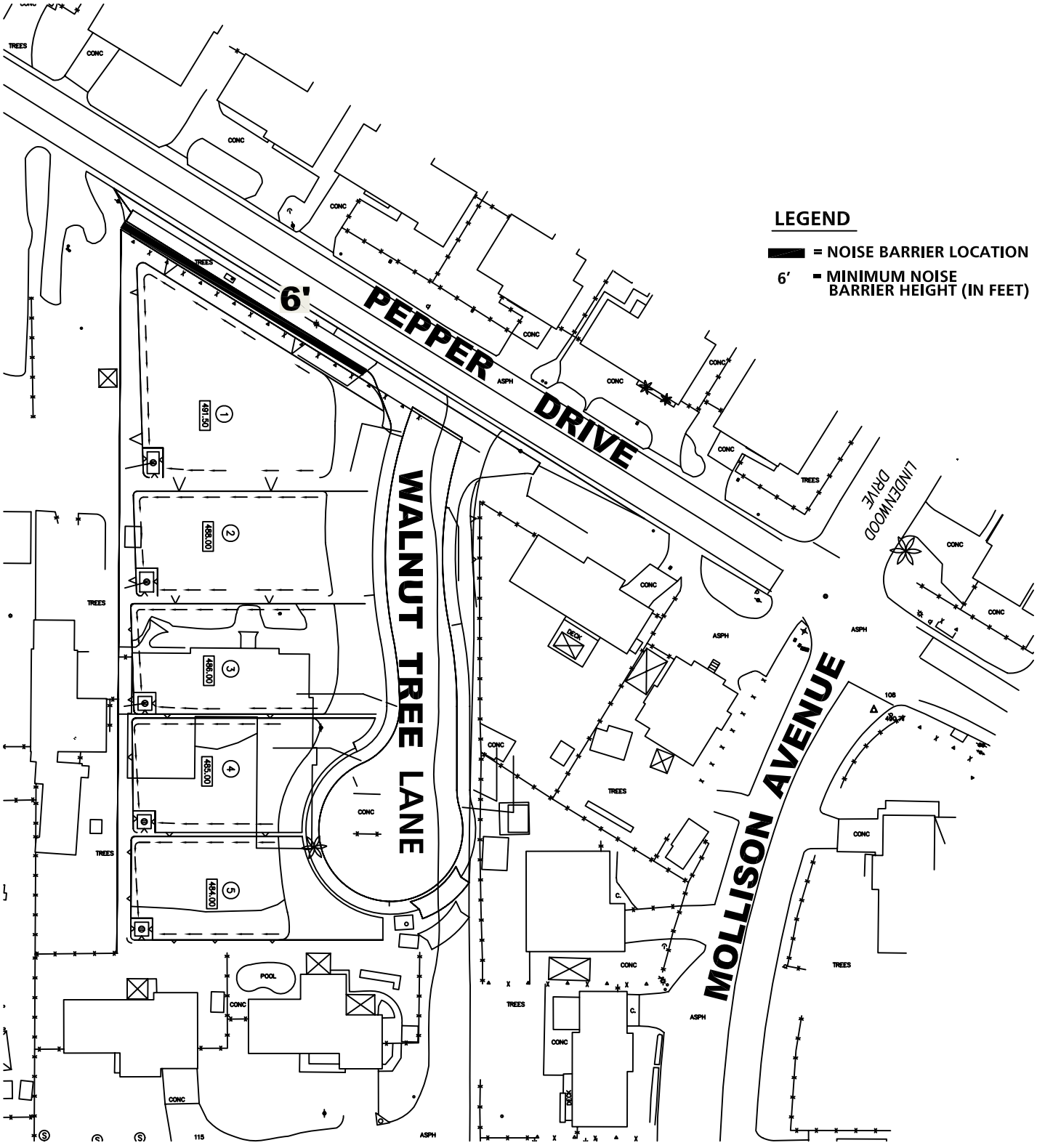
- To minimize the potential interior noise impacts, the residence at Lot 1 should be provided with weather-stripped solid core exterior doors and exterior wall/roof assembles should be free of cut outs and openings.

- Provide upgraded windows for the proposed residence within Lot 1 adjacent to Pepper Drive.

A final noise study shall be prepared prior to obtaining building permits for the project. This report would finalize the noise requirements based upon precise grading plans and actual building design specifications. Preliminary exterior and interior noise requirements for tentative tract map approval are presented in this report.

EXHIBIT 1-A

SUMMARY OF RECOMMENDATIONS



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2.0 INTRODUCTION

This preliminary noise study outlines the project, provides basic information regarding the fundamentals of traffic noise, describes local noise guidelines, provides the study methods and procedures for traffic noise analysis, and evaluates the future exterior and interior noise environments.

This report presents the results of a preliminary noise impact analysis for the TM 5504 Pepper Drive residential project. The proposed site is located on 1.3 acres and includes 5 lots. The general location of the project is shown on the Location Map, Exhibit 2-A. The proposed project is located at Pepper Drive and Walnut Tree Lane in the County of San Diego. The site plan used for this analysis is shown on Exhibit 2-B.

The Gillepsie Field Airport is located near North Magnolia Avenue approximately 1 mile west of the proposed project site. The CNEL noise contours from the airport are provided as Exhibit 2-C. The project site boundary is well beyond the noise contours; therefore no impacts are anticipated to the proposed project and no additional analysis from the Gillepsie Field Airport is necessary.

Included in the report is a discussion of the expected exterior community noise environment and recommendations for control of the noise impacts for exterior private outdoor use areas. In the following sections, noise exposures expected within the planned site are reviewed and compared to the applicable noise standards.

EXHIBIT 2-A

LOCATION MAP

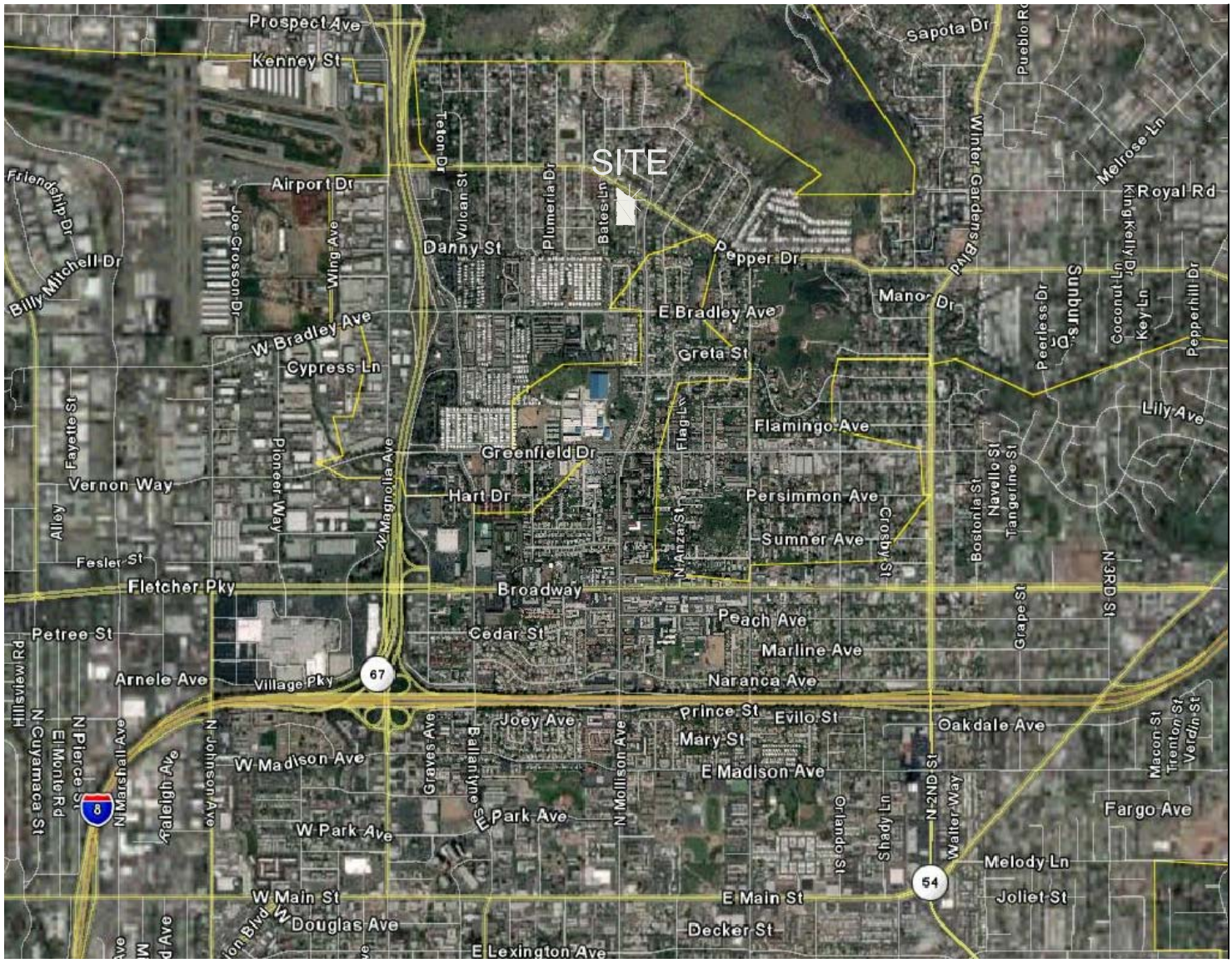

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EXHIBIT 2-B

SITE PLAN

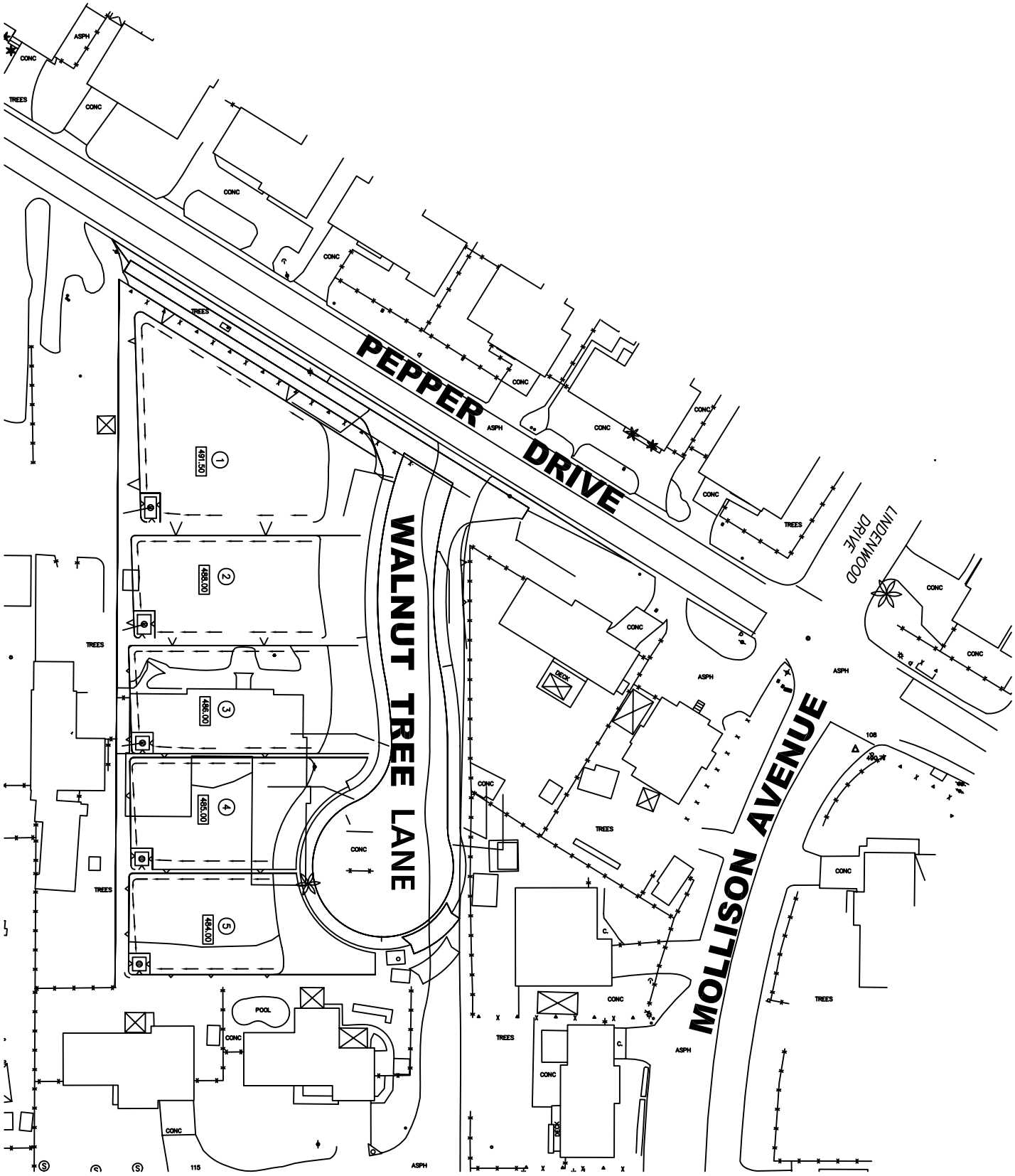

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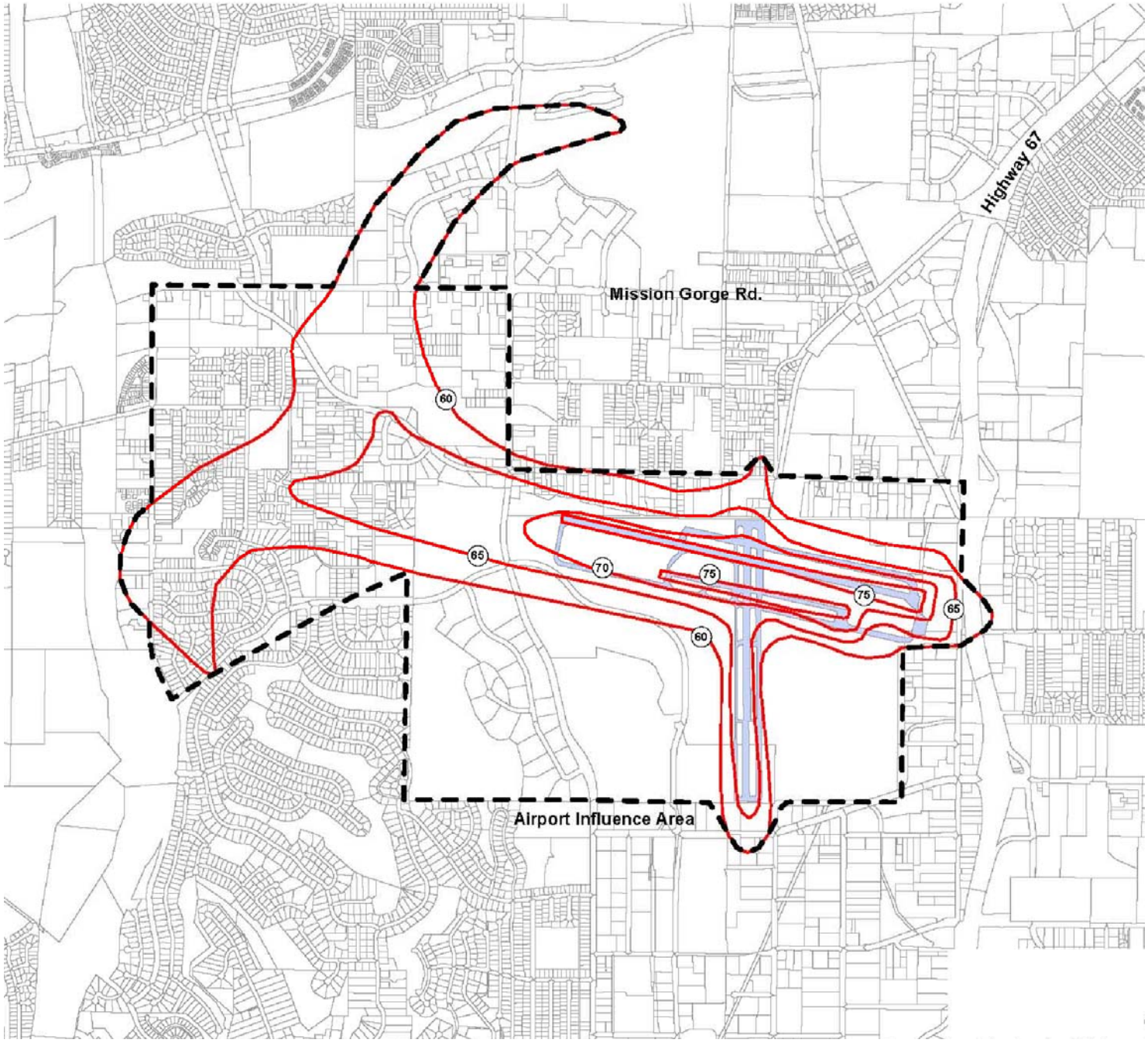
EXHIBIT 2-C

GILLESPIE FIELD PROJECTED AIRCRAFT PRODUCED COMMUNITY NOISE EQUIVALENT LEVEL (CNEL) CONTOURS



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3.0 NOISE FUNDAMENTALS

Noise has been simply defined as "unwanted sound". Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear.

3.1 Noise Descriptors

Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The peak hour Leq is the noise metric used by Caltrans for all traffic noise impact analysis.

The Community Noise Equivalent Level (CNEL) is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of five decibels to sound levels in the evening from 7 p.m. to 10 p.m., and the addition of ten decibels to sound levels at night between 10 p.m. to 7 a.m. These additions are made to the sound levels at these time periods because during the evening and night hours, with the decrease in overall amount and loudness of noise generated, when compared to daytime hours, there is an increased sensitivity to sounds. For this reason the sound appears louder and it is weighted accordingly. The County of San Diego relies on the CNEL noise standard to assess transportation related impacts on noise sensitive land uses.

3.2 Traffic Noise Prediction

The level of traffic noise depends on the three primary factors: (1) the volume of the traffic, (2) the speed of the traffic and (3) the number of trucks in the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds and greater number of trucks. Vehicle noise is a combination of the noise produced by the engine, exhaust and tires.

Because of the logarithmic nature of traffic noise levels, a doubling of the traffic noise (acoustic energy) results in a noise level increase 3 dBA. Based on the FHWA community noise assessment criteria this change is “barely perceptible”. In other words, doubling the traffic volume (assuming that the speed and truck mix do not change) results in a noise increase of 3 dBA. The truck mix on a given roadway also has a significant effect on community noise levels. As the number of heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise levels increase.

3.3 Noise Control

Noise control is the process of obtaining an acceptable noise environment for a particular observation point or receiver by controlling the noise source, transmission path, receiver or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to any and all of these three elements and a noise barrier is most effective when placed close to the noise source or receiver.

3.4 Ground Absorption

To account for the ground-effect attenuation (absorption), two types of site conditions are commonly used in traffic noise models, soft site and hard site conditions. Soft site conditions account for the sound propagation loss over

natural surfaces such as normal earth and ground vegetation. A drop-off rate of 4.5 dBA per doubling of distance is typically observed over soft ground with landscaping, as compared with a 3.0 dBA drop-off rate over hard ground such as asphalt, concrete, stone and very hard packed earth. To predict the worst-case future noise environment, hard site conditions were used in this analysis based on the topography in the site area and the monitoring results.

3.5 Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by 10 to 15 decibels, cutting the loudness of traffic noise in half. Noise barriers however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the view of a road. Noise barriers do very little good for homes on a hillside overlooking a road or for buildings which rise above the barrier. A noise barrier can typically achieve a 5 decibel noise level reduction when it is tall enough to break the line-of-sight.

4.0 SAN DIEGO COUNTY NOISE STANDARDS

The County of San Diego addresses two separate types of noise sources through the CEQA process: (1) mobile, and (2) stationary. The most effective method to control community noise impacts from non-transportation noise sources (such as trash compactors, etc.) is through the application of a community noise ordinance. In the context of this noise analysis, the noise impacts associated with the proposed Pepper Drive Residential Project are regulated by the County noise control ordinance.

4.1 CEQA Noise Criteria

The County of San Diego has adopted interior and exterior noise standards as part of the County's Noise Element of the General Plan for assessing the compatibility of land uses with transportation related noise impacts. For assessing noise impacts to sensitive residential land uses through the CEQA process, the County requires an exterior noise level of less than 60 dBA CNEL for outdoor living areas and an interior noise standard of 45 dBA CNEL. According to the County of San Diego Noise Element, noise levels at any noise sensitive area may not exceed 75 dBA CNEL. This includes the building footprint and outdoor usable areas proposed for the project.

4.2 Noise Ordinance Criteria

Section 36.404 of the San Diego County noise ordinance provides performance standards and noise control guidelines for determining and mitigating non-transportation, or stationary, noise source impacts to residential properties. The purpose of the noise ordinance is to protect, create and maintain an environment free from noise and vibration that may jeopardize the health or welfare, or degrade the quality of life.

5.0 NOISE LEVEL MEASUREMENTS

To determine the existing noise level environment and to assess potential noise impacts measurements were taken at a worst-case location adjacent to Pepper Drive on the project site. The noise measurements were recorded by Urban Crossroads, Inc. between the hours of 2:20 p.m. and 2:35 p.m. on October 26, 2006. Appendix "A" includes study area photos and Appendix “B” includes a summary of the monitoring data.

5.1 Measurement Procedure and Criteria

Noise measurements were taken using a Larson-Davis Model LxT Type 1 precision sound level meter, programmed, in "slow" mode, to record noise levels in "A" weighted form. The sound level meter and microphone were mounted on a tripod, five feet above the ground and equipped with a windscreen during all measurements. The sound level meter was calibrated before and after the monitoring using a Larson-Davis calibrator, Model CAL 200.

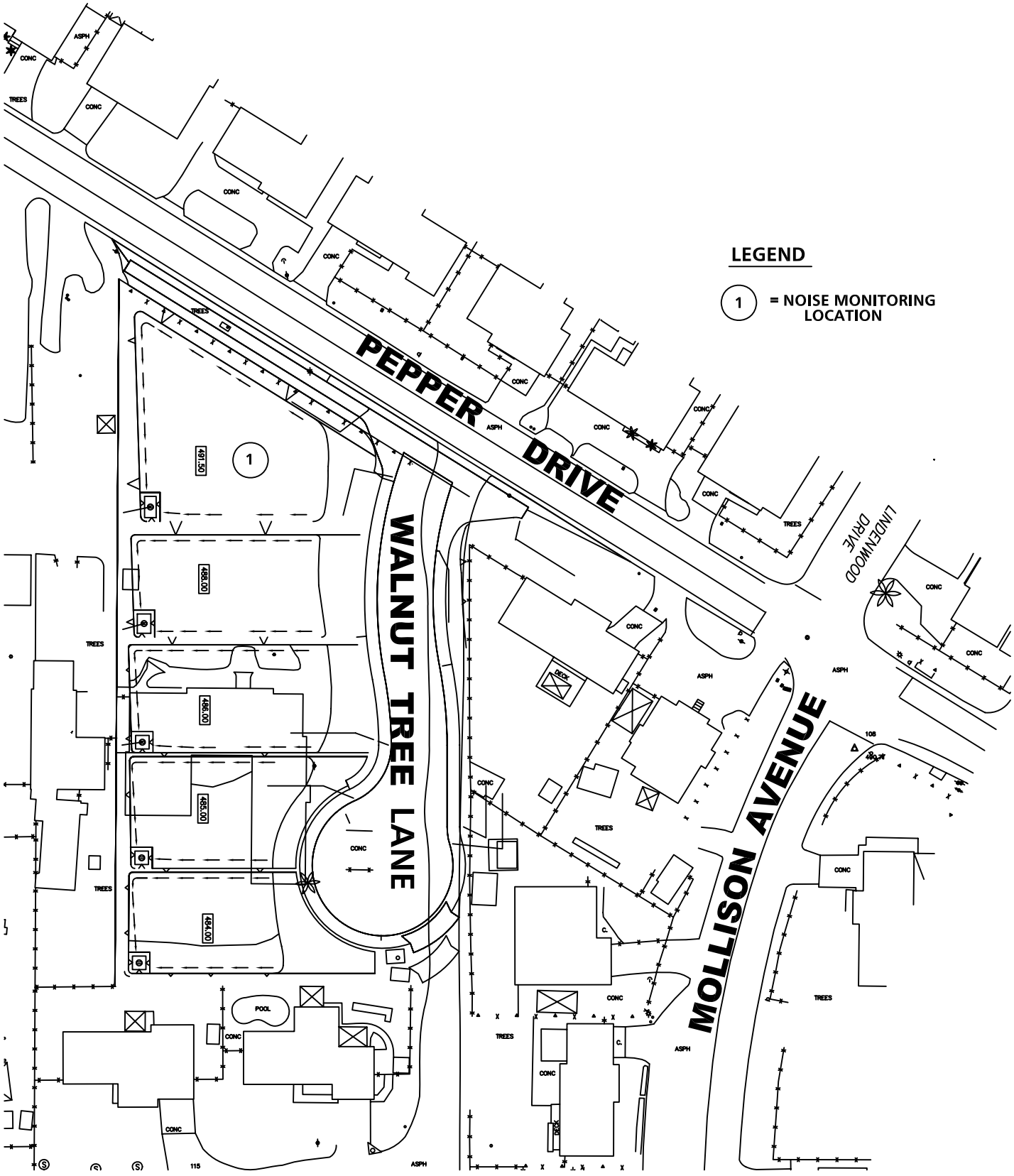
5.2 Noise Measurement Locations

The noise monitoring location was selected based on the respective impact potential. The site is currently consists of existing residential homes and existing surrounding uses of residential to all sides of the project site.

Site 1 was located at the northern portion of the project site approximately 100 feet from the centerline of Pepper Drive. The noise monitoring location is provided in Exhibit 5-A.

EXHIBIT 5-A

NOISE MONITORING LOCATIONS



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5.3 Noise Measurement Results

The results of the noise level measurements are presented in Table 5-1. The site was monitored for a time period of 15 minutes. The existing ambient noise levels measured in the area of the project during the afternoon hour was found to be 58.5 dBA Leq. The project site currently consists of residential homes and the existing noise levels in the project area consist primarily of vehicle traffic from Pepper Drive. The posted speed of 40 miles per hour was utilized in the model. It was observed that 150 cars, 3 medium trucks, and 4 heavy trucks passed by on Pepper Drive during the 15 minute interval while monitoring the noise levels.

TABLE 5-1

EXISTING (AMBIENT) NOISE LEVEL MEASUREMENTS[1]

OBSERVER LOCATION[2]	DESCRIPTION	TIME OF MEASUREMENT	PRIMARY NOISE SOURCE	MEASURED NOISE LEVELS (dBA Leq)
1	Located on project site approximately 100 feet from the center line of Pepper Drive	2:20 PM	Vehicle noise from Pepper Drive	58.5

[1] Noise measurement taken for a minumum period of 15 minutes by Urban Crossroads Inc on October 26, 2006.

[2] See Exhibit 5-A for the location of the monitoring site, and Appendix "A" for Study Area Photos.

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6.0 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future noise environment.

6.1 FHWA Traffic Noise Prediction Model

The expected roadway noise impacts from Pepper Drive were projected using Sound32, Caltrans' version of the FHWA's STAMINA 2.0/OPTIMA Traffic Noise Prediction Model. Sound32 is a peak hour Leq based traffic noise prediction model. The results of this analysis are based on the Caltrans *Highway Design Manual* California Vehicle Noise Emission Levels (Calveno Curves). These curves more accurately reflect motor vehicle noise characteristics in the project area, and use of the Calveno curves is required by Section 1103.1 of the *Highway Design Manual*. The key input parameters, which determine the projected impact of vehicular traffic noise, include the lane travel speed, the percentages of automobiles, medium trucks and heavy trucks in the roadway volume, the site conditions ("hard" or "soft") and the peak hour traffic volumes.

To predict the future noise environment, hard site conditions were used in this analysis based on the ground conditions in the site area and the monitoring results.

Since the Sound32 traffic noise model calculates the peak hour Leq dBA noise level, it is necessary to convert the results into CNEL values. The Leq to CNEL calculations are based on a typical vehicle distribution of over a twenty-four hour period with the appropriate noise penalties for the evening and nighttime periods. For the purpose of this analysis 80% of all vehicles were assigned during the daytime hours of 7 a.m. to 7 p.m., 7% during the evening hours of 7 p.m. to 10 p.m. and 13% during the nighttime hours of 10 p.m. to 7 a.m. Section N-2231 of the Caltrans Technical Noise Supplement outlines the procedures to calculate the CNEL values using the peak hour Leq.

6.2 Sound 32 Model Setup

To obtain the necessary coordinate information required by the Sound32 traffic noise prediction model, input data was taken using the grading plans. The preliminary grading plans and lot locations provided by JP Engineering received on October 10, 2006, were used to identify the relationship between the roadway centerline elevation, the pad elevation and the centerline distance to the noise barrier and the backyard observer to predict the future noise environment. For modeling purposes, traffic was consolidated into a single lane located along the centerline of each road. Lane consolidation is considered an acceptable practice since the amount of error introduced by this simplification is negligible. The lanes were then subdivided into a series of contiguous segments for analysis. The nodes points on each road segment were then manually assigned an elevation using either the roadway centerline elevation or the elevation provided on the vertical roadway profile. For the purpose of this analysis, the roadway segments extend a minimum of 200 feet beyond any observer location. No grade correction (according to Caltrans Policy TAN-02-01 dated January 17, 2002) or calibration factors were included as part of the Sound32 traffic noise prediction model analysis.

To assess the study noise impacts with the development of the proposed project the outdoor observers located in Noise Sensitive Areas (NSA) were placed five (5) feet above the pad elevation and approximately fifty (50) feet from the bottom of slope. All first floor observers were placed five (5) feet above the pad elevation with all second observers located fifteen (15) feet above the proposed pad elevation.

6.3 Traffic Noise Prediction Model Inputs

The roadway parameters including the average daily traffic volumes and vehicle speeds used for this study are presented in Table 6-1. To assess the peak hour traffic noise conditions, 10% of the ADT was used for all the study area roadways. Table 6-2 presents the hourly traffic flow distribution (vehicle mix) used for this analysis. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks and heavy trucks for input into the FHWA Model. Although a vehicle mix of 96% Autos, 2% Medium Trucks and 2% Heavy Trucks was observed at the project site, a more conservative vehicle mix of 95% Autos, 3% Medium Trucks and 2% Heavy used for this analysis.

6.4 Sound32 Modeled Scenarios

The existing conditions were modeled to compare against the noise measurements described in Section 5 of this report. It is expected that the primary source of noise impacts to the site will be traffic noise from Pepper Drive. The Buildout scenario includes the future Year 2030 traffic volume forecasts provided by the San Diego Association of Governments (SANDAG). An estimated traffic speed of 40 mph for Pepper Drive was based on the County of San Diego's Circulation Element for the above roadway, which classified Pepper Drive as a 2.2C, Light Collector.

TABLE 6-1

ROADWAY PARAMETERS

CONDITION	(ADT)[1]	PEAK HOUR TRAFFIC VOLUMES[2]			MODELED VEHICLE SPEED	POSTED VEHICLE SPEED
		AUTOS	MEDIUM TRUCKS	HEAVY TRUCKS		
PEPPER DRIVE						
EXISTING	6,280	600	12	16	40	40
BUILDOUT	13,000	1,235	39	26	40	40

[1] Average Daily Traffic (ADT) for buildout condition was based on the San Diego County SANDAG Forecasts for year 2030, existing ADT was based on the traffic count observed by Urban Crossroads Inc. on October 26, 2006.

[2] Worst case scenario assuming 10% of the ADT.

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TABLE 6-2

HOURLY TRAFFIC FLOW DISTRIBUTION

MOTOR-VEHICLE TYPE	DAYTIME (7 AM TO 7 PM)	EVENING (7 PM TO 10 PM)	NIGHT (10 PM TO 7 AM)	TOTAL % TRAFFIC FLOW
PEPPER DRIVE				
Automobiles	77.5%	12.9%	9.6%	95.00%
Medium Trucks	84.8%	4.9%	10.3%	3.00%
Heavy Trucks	86.5%	2.7%	10.8%	2.00%

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7.0 ON-SITE NOISE ANALYSIS

Using the FHWA traffic noise prediction model and the input parameters described in Section 6 of this report, calculations of the expected future noise impacts were completed. An analysis has been performed to determine the acoustical shielding which may be used to reduce the expected roadway noise impact for the affected outdoor usable areas. Key input data for these barrier performance equations include the relative source-barrier-receiver horizontal separations, the relative source-barrier-receiver vertical separations, the typical noise source spectra and the barrier transmission loss. The exterior noise levels were analyzed for the existing conditions and buildout conditions.

7.1 Existing Conditions

Section N-5440 of the Caltrans Technical Noise Supplement provides detailed procedures for calibrating the Sound32 traffic noise prediction model to actual noise level measurements. The comparison is made to ensure the predicted traffic noise levels accurately reflect the actual measured noise levels. Section N-5460 suggests that model calibration should not be performed when calculated and measured noise levels agree within 1 dBA. Differences of 3.0 to 4.0 dBA may routinely be calibrated.

The modeled existing noise levels are shown on Table 7-1. Measurement Location 1 was modeled to compare with the noise monitoring location presented in Table 5-1. The model was over predicting the noise levels by 2.0 dBA. This is most likely due to the fact that a stop sign is located at the corner of the project site. The model assumes worst-case free-flow traffic, causing the over prediction. No calibration factor based on the noise measurement data described in Chapter 5 was included as part of the buildout analysis. The model input parameters for calibration can be seen in Appendix “C”.

TABLE 7-1

EXISTING NOISE LEVELS (MODELED)

RECEPTOR	dBA Leq	dBA CNEL
Measurement Location 1[1]	60.4	60.5

[1] Noise monitoring location 1 was included in the model for existing conditions to compare with the measured noise results presented in Table 5-1.

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7.2 Buildout Scenario Exterior Noise Analysis

The buildout analysis was modeled assuming future Year 2030 traffic volumes along Pepper Drive. Pepper Drive was modeled with a future worst-case speed of 40 miles per hour. Noise affected outdoor areas on the project site require a 6-foot noise barrier along the project frontage facing Pepper Drive. The barrier must be constructed of a non-gapping material. Exhibits 1-A shows the mitigation and barrier heights required to bring future noise levels to the County of San Diego 60 dBA CNEL exterior noise level standards outdoor use areas.

To minimize the potential interior noise impacts, the residence at Lot 1 should be provided with weather-stripped solid core exterior doors and exterior wall/roof assembles should be free of cut outs and openings. Upgraded windows should be provided for the proposed residence within Lot 1 adjacent to Pepper Drive. A final noise study shall be prepared prior to obtaining building permits for the project. This report would finalize the noise requirements based upon precise grading plans and actual building design specifications.

Modeled observer locations are presented in Exhibit 7-A. The results of the mitigated exterior use areas for first and second floors are shown in Table 7-2. The Sound32 input and output decks for future year 2030 conditions are provided in Appendix “D”.

7.3 Noise Control Barrier Construction Materials

The designed noise screening may only be accomplished if the barriers weight is at least 3.5 pounds per square foot of face area and have no decorative cutouts or line-of-site openings between shielded areas and the roadways. The recommended noise control barrier may be constructed using one of the following alternative materials:

EXHIBIT 7-A

MODELED OBSERVER LOCATIONS

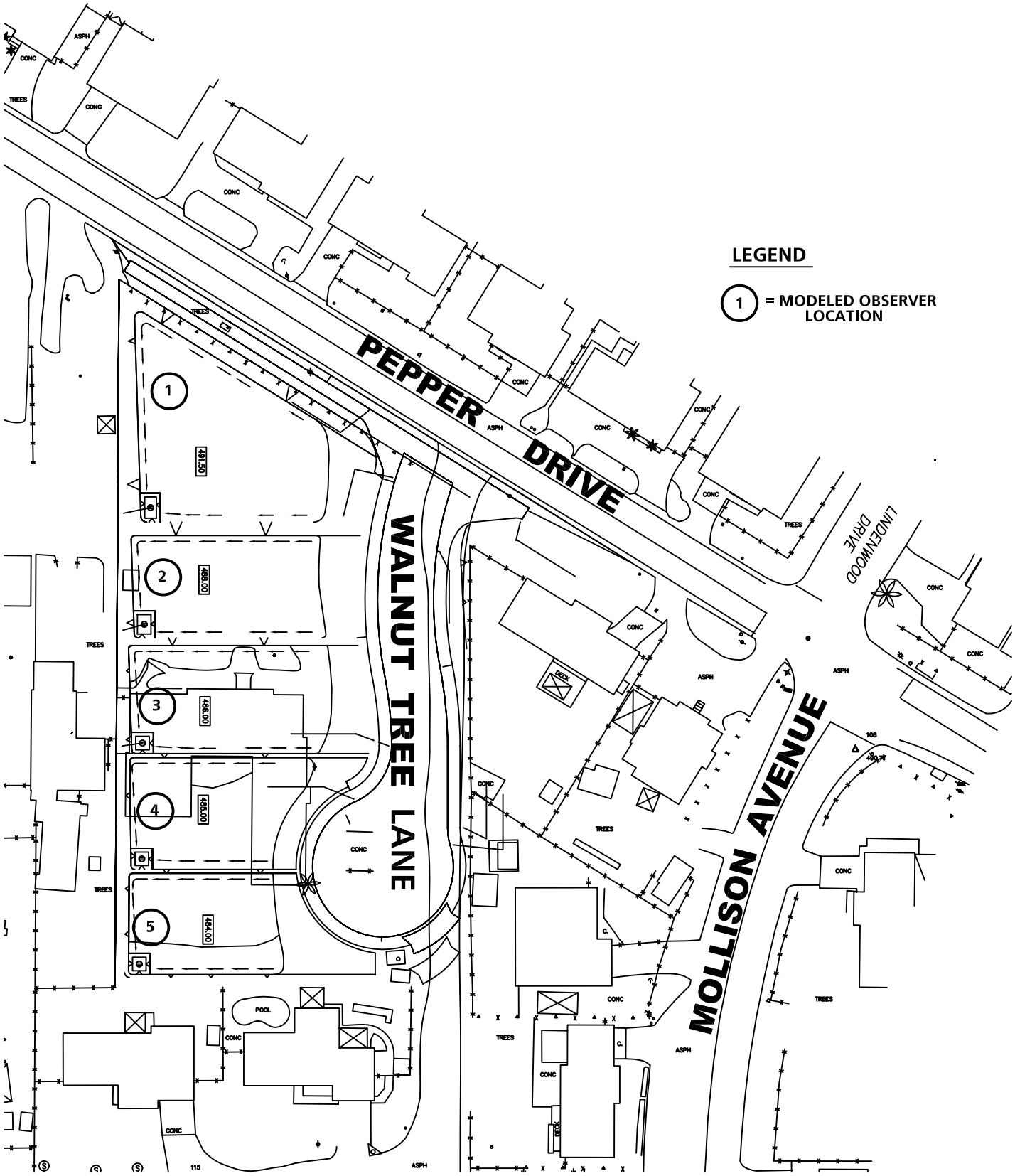

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TABLE 7-2

BUILDOUT CONDITIONS
EXTERIOR NOISE LEVELS (dBA CNEL)

Receptor Location	UNMITIGATED GROUND FLOOR EXTERIOR NOISE LEVEL	MITIGATED GROUND FLOOR EXTERIOR NOISE LEVEL	SECOND FLOOR W/ BARRIERS EXTERIOR NOISE LEVEL	BARRIER HEIGHT (IN FEET)[1]
1	63.8	60.4	64.2	6.0
2	59.2	57.6	58.5	0.0
3	57.5	56.3	56.9	0.0
4	56.1	55.2	55.6	0.0
5	54.9	54.1	54.4	0.0

[1] Barrier height in feet above pad or roadway elevation, whichever is greater to achieve maximum insertion loss.

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1. Masonry block;
2. Stucco veneer over wood framing (or foam core), or 1 inch thick tongue and groove wood of sufficient weight per square foot;
3. Glass (1/4 inch thick), or other transparent material with sufficient weight per square foot;
4. Earthen berm;
5. Any combination of these construction materials.

Barriers for outdoor use areas must utilize ¼ thick glass or an equivalent transparent material to meet the required noise mitigations measures. The recommended barrier must present a solid face from top to bottom. Unnecessary openings or decorative cutouts should not be made. All gaps (except for weep holes) should be filled grout or caulking.

7.4 Traffic Noise Contours

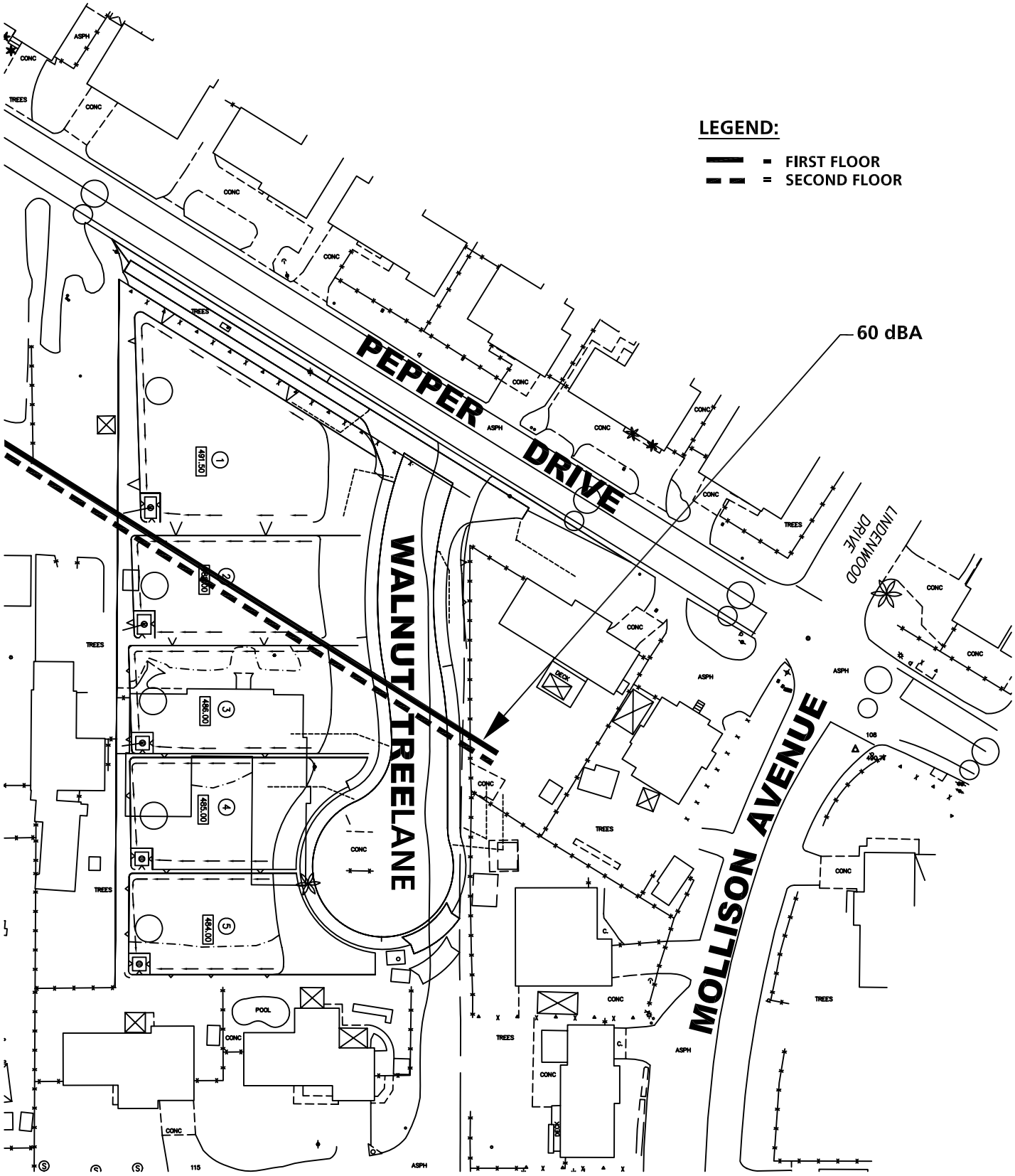
Noise contours are lines that drawn around a noise source indicating a constant or equal level of noise exposure. Noise contour boundaries are generally used as a planning tool to assess the need for additional analysis.

The noise contour boundaries were developed for unmitigated future Buildout conditions. No barriers were included as part of the noise contour analysis. The Sound32 traffic noise prediction model was used to calculate a reference noise level for observers perpendicular to Pepper Drive. Exhibit 7-B provides the location of the first and second floor 60 dBA CNEL noise contour boundaries.

The noise contours shown on Exhibit 7-B suggest that lots adjacent to Pepper Drive will exceed the County of San Diego 60 dBA CNEL exterior noise standard. However, with the incorporation of the recommended 6-foot high noise barrier, all lots will comply with the County of San Diego 60 dBA CNEL exterior noise standard.

EXHIBIT 7-B

NOISE CONTOURS



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APPENDIX A

STUDY AREA PHOTOS

Monitoring Location 1

West View along Pepper Drive

North View to Pepper Drive

East View along Pepper Drive

South View from Pepper Drive

APPENDIX B

SPECTRAL NOISE READING PRINTOUTS

Summary Report
File Name:
User:
Location:
Job Description:

30 October 2006 09:13:32
LxT_Data.019
A. Stalker
Pepper Drive
4389

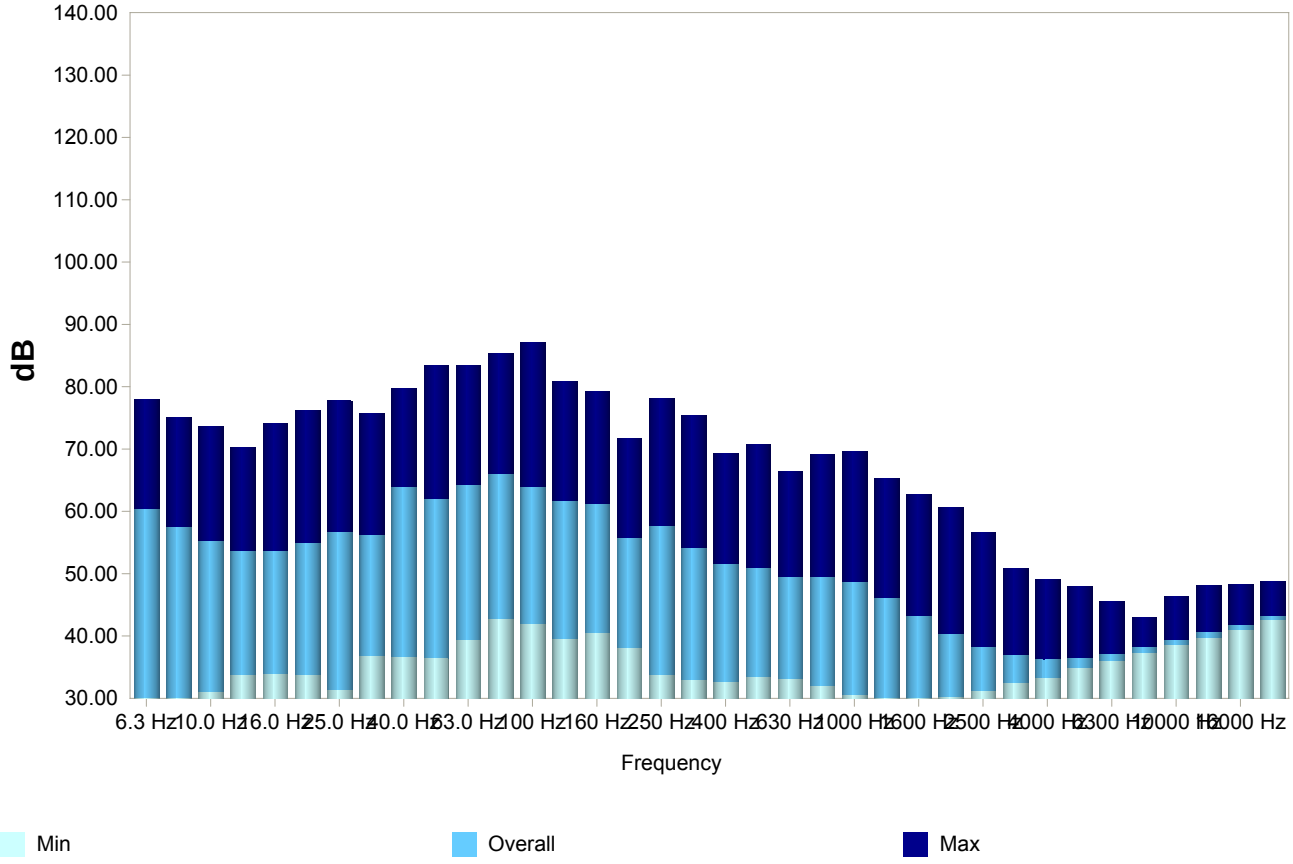
Serial Number:	01146		Start:	2006 Oct 26 14:22:01
Model Number:	LxT1		Stop:	2006 Oct 26 14:37:02
RMS Weighting:	A Weighting		Run Time:	00:15:00
Peak Weighting::	A Weighting		Pre Calibration:	2006 Oct 26 11:05:02
Detector:	Fast		Post Calibration:	None
Preamp:	PRMLXT1		Deviation:	---
Integration Method:	Exponential		OBA Range:	Normal
			OBA Bandwidth:	1/3 Octave

Leq:		58.5	dBA	L5.0:	63.7 dBA
Lmax:	@ 14:34:18	76.4	dBA	L10.0:	61.2 dBA
Lpeak (max):	@ 14:27:15	94.2	dBA	L33.3:	55.9 dBA
Min:	@ 14:35:49	42.1	dBA	L50.0:	53.9 dBA
Event Counts (SPL Trigger 85.0 dB):		0		L66.6:	52.2 dBA
Event Counts (SPL Trigger 115.0 dB):		0		L90.0:	48.2 dBA
Event Counts (Lpeak Trigger 140.0 dB):		0			

Dose:	0.0	0.0	dBA	Lep (8):	43.4 dBA
Projected Dose:	0.0	0.0		LE:	88.0 dBA
TWA (Projected):	---	---	dBA	SE:	70.2 µPa²hr
TWA (8):	-26.0	-26.0	dBA	SE(8):	2.2 mPa²hr
Name:	OSHA-1	OSHA-2		SE(40):	11.2 mPa²hr
Exchange Rate:	5	5			
Threshold:	90	80	dBA		
Criterion Level:	90	90	dBA		
Criterion Duration:	8	8	hours		

Note:
100 feet from CL
4 feet below road

1/3 Octave



APPENDIX C

EXTERIOR ANALYSIS PREDICTION MODEL INPUTS AND CALCULATIONS FOR EXISTING CONDITIONS

```
PEPPER DRIVE UNMITIGATED FIRST FLOOR
T-PEPPER DRIVE, 1
 600 , 40 , 12 , 40 , 16 , 40
L-PEPPER DRIVE, 1
N,4752.,5191,493,
N,4805.,5158,494,
N,4871.0,5117,495,
N,5126.,4958,494,
N,5206.,4908,493,
N,5277.,4865,493,
N,5333.,4827,492,
B-Road Edge, 1 , 1 , 0 ,0
4741.,5183,493,493,
4865.,5106,495,495,
5120.,4947,494,494,
5199.,4898,493,493,
5272.,4850,493,493,
5325.,4818,492,492,
R, 1 , 67 ,500
4949,4970,497.,
C,C
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SOUND32 - RELEASE 07/30/91

TITLE:
PEPPER DRIVE UNMITIGATED FIRST FLOOR

BARRIER DATA
****

BAR ELE	BARRIER HEIGHTS 0	1	2	3	4	5	6	7	BAR ID	LENGTH	TYPE
1	-	0.*							B1 P1	146.0	BERM
2	-	0.*							B1 P2	300.5	BERM
3	-	0.*							B1 P3	93.0	BERM
4	-	0.*							B1 P4	87.4	BERM
5	-	0.*							B1 P5	61.9	BERM

	0	1	2	3	4	5	6	7

1

REC	REC ID	DNL	PEOPLE	LEQ(CAL)
1	R-1	67.	500.	60.4

BARRIER HEIGHT INDEX FOR EACH BARRIER SECTION
1 1 1 1 1
CORRESPONDING BARRIER HEIGHTS FOR EACH SECTION
0. 0. 0. 0. 0.

APPENDIX D

EXTERIOR ANALYSIS PREDICTION MODEL INPUTS
AND CALCULATIONS FOR BUILDOUT SCENARIO

```
PEPPER DRIVE UNMITIGATED FIRST FLOOR
T-PEPPER DRIVE, 1
 1235 , 40 , 39 , 40 , 26 , 40
L-PEPPER DRIVE, 1
N,4752.,5191,493,
N,4805.,5158,494,
N,4871.0,5117,495,
N,5126.,4958,494,
N,5206.,4908,493,
N,5277.,4865,493,
N,5333.,4827,492,
B-Road Edge, 1 , 1 , 0 ,0
4741.,5183,493,493,
4865.,5106,495,495,
5120.,4947,494,494,
5199.,4898,493,493,
5272.,4850,493,493,
5325.,4818,492,492,
R, 1 , 67 ,500
4906,5010,497.,
R, 2 , 67 ,500
4902,4913,493.,
R, 3 , 67 ,500
4901,4854,491.,
R, 4 , 67 ,500
4902,4794,490.,
R, 5 , 67 ,500
4899,4736,489.,
C,C
```

SOUND32 - RELEASE 07/30/91

TITLE:
PEPPER DRIVE UNMITIGATED FIRST FLOOR

BARRIER DATA
****

BAR ELE	0	1	2	3	4	5	6	7	BAR ID	LENGTH	TYPE
1	-	0.*							B1 P1	146.0	BERM
2	-	0.*							B1 P2	300.5	BERM
3	-	0.*							B1 P3	93.0	BERM
4	-	0.*							B1 P4	87.4	BERM
5	-	0.*							B1 P5	61.9	BERM

1

REC	REC ID	DNL	PEOPLE	LEQ(CAL)
1	R-1	67.	500.	63.8
2	R-2	67.	500.	59.2
3	R-3	67.	500.	57.5
4	R-4	67.	500.	56.1
5	R-5	67.	500.	54.9

BARRIER HEIGHT INDEX FOR EACH BARRIER SECTION
1 1 1 1 1
CORRESPONDING BARRIER HEIGHTS FOR EACH SECTION
0. 0. 0. 0. 0.

```
PEPPER DRIVE MITIGATED FIRST FLOOR
T-PEPPER DRIVE, 1
 1235 , 40 , 39 , 40 , 26 , 40
L-PEPPER DRIVE, 1
N,4752.,5191,493,
N,4805.,5158,494,
N,4871.0,5117,495,
N,5126.,4958,494,
N,5206.,4908,493,
N,5277.,4865,493,
N,5333.,4827,492,
B-Road Edge, 1 , 1 , 0 ,0
4741.,5183,493,493,
4865.,5106,495,495,
5120.,4947,494,494,
5199.,4898,493,493,
5272.,4850,493,493,
5325.,4818,492,492,
B-SOUND WALL, 2 , 2 , 0 ,0
4888.,5070,495,501,
5009.,4995,495,501,
R, 1 , 67 ,500
4906,5010,497.,
R, 2 , 67 ,500
4902,4913,493.,
R, 3 , 67 ,500
4901,4854,491.,
R, 4 , 67 ,500
4902,4794,490.,
R, 5 , 67 ,500
4899,4736,489.,
C,C
```

SOUND32 - RELEASE 07/30/91

TITLE:
PEPPER DRIVE MITIGATED FIRST FLOOR

BARRIER DATA
****

BAR ELE	0	1	2	3	4	5	6	7	BAR ID	LENGTH	TYPE
1	-	0.*							B1 P1	146.0	BERM
2	-	0.*							B1 P2	300.5	BERM
3	-	0.*							B1 P3	93.0	BERM
4	-	0.*							B1 P4	87.4	BERM
5	-	0.*							B1 P5	61.9	BERM
6	-	6.*							B2 P1	142.4	MASONRY
	0	1	2	3	4	5	6	7			

1

REC	REC ID	DNL	PEOPLE	LEQ(CAL)
1	R-1	67.	500.	60.4
2	R-2	67.	500.	57.6
3	R-3	67.	500.	56.3
4	R-4	67.	500.	55.2
5	R-5	67.	500.	54.1

BARRIER HEIGHT INDEX FOR EACH BARRIER SECTION
1 1 1 1 1 1
CORRESPONDING BARRIER HEIGHTS FOR EACH SECTION
0. 0. 0. 0. 0. 6.

```
PEPPER DRIVE SECOND FLOOR W/BARRIERS
T-PEPPER DRIVE, 1
 1235 , 40 , 39 , 40 , 26 , 40
L-PEPPER DRIVE, 1
N,4752.,5191,493,
N,4805.,5158,494,
N,4871.0,5117,495,
N,5126.,4958,494,
N,5206.,4908,493,
N,5277.,4865,493,
N,5333.,4827,492,
B-Road Edge, 1 , 1 , 0 ,0
4741.,5183,493,493,
4865.,5106,495,495,
5120.,4947,494,494,
5199.,4898,493,493,
5272.,4850,493,493,
5325.,4818,492,492,
B-SOUND WALL, 2 , 2 , 0 ,0
4888.,5070,495,501,
5009.,4995,495,501,
R, 1 , 67 ,500
4906,5010,507.,
R, 2 , 67 ,500
4902,4913,503.,
R, 3 , 67 ,500
4901,4854,501.,
R, 4 , 67 ,500
4902,4794,500.,
R, 5 , 67 ,500
4899,4736,499.,
C,C
```

SOUND32 - RELEASE 07/30/91

TITLE:
PEPPER DRIVE SECOND FLOOR W/BARRIERS

BARRIER DATA
****

BAR ELE	0	1	2	3	4	5	6	7	BAR ID	LENGTH	TYPE
1	-	0.*							B1 P1	146.0	BERM
2	-	0.*							B1 P2	300.5	BERM
3	-	0.*							B1 P3	93.0	BERM
4	-	0.*							B1 P4	87.4	BERM
5	-	0.*							B1 P5	61.9	BERM
6	-	6.*							B2 P1	142.4	MASONRY

1

REC	REC ID	DNL	PEOPLE	LEQ(CAL)
1	R-1	67.	500.	64.2
2	R-2	67.	500.	58.5
3	R-3	67.	500.	56.9
4	R-4	67.	500.	55.6
5	R-5	67.	500.	54.4

BARRIER HEIGHT INDEX FOR EACH BARRIER SECTION
1 1 1 1 1 1
CORRESPONDING BARRIER HEIGHTS FOR EACH SECTION
0. 0. 0. 0. 0. 6.